



INSTALLATION INSTRUCTIONS AND MANUAL

CINEMA TWO SUB SYSTEM



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THX, The Standard for Theatre Sound

THX is a set of technical standards developed 15 years ago by Lucasfilm to ensure that moviegoers see and hear films as the director intended. This comprehensive set of standards includes rigorous specifications designed to optimize equipment, room acoustics, background noise levels, and projection and viewing angles.

The THX Sound System was developed in 1982 during the production of Return of the Jedi. Lucasfilm's technical experts began to consolidate existing performance standards into a new system which included theatre acoustics as well as sound

reproduction equipment. THX (named after Lucas' first feature film, THX 1138) is a sound system designed specifically to reproduce film sound exactly as it was recorded by the filmmaker.

The system was created to complement advances made by Dolby Laboratories in encoding and decoding sounds in the sound track. The THX Sound System concentrates on the playback chain from the decoder through amplification, speakers and theatre acoustics.

A certified THX theatre carries several important advantages for the moviegoer. The audience enjoys a more naturally balanced sound that uniformly reaches every seat in the auditorium, improved dialog intelligibility and decreased bass distortion. Better stereo localization makes the sound appear to travel across the screen with action. The result is the reproduction of the same clear, dynamic sound originally created by the filmmaker.

In 1985, Lucasfilm's THX Division began researching the reproduction of movie soundtracks in the home. Testing revealed a startling difference in sound quality and character between home theatres and THX theatres. Home THX was created to solve this problem.

Circuitry was designed to accurately translate the sound from movie environment into the home, correcting the tonal and spatial errors that occurred. Then refinements in designs were researched: most hi-fi equipment was designed to reproduce only two channels of sound in home, not the four, five or more channels present in a movie soundtrack.

THX certified speakers are designed to provide accurate reproduction of the soundtrack in the home environment. Sonance Cinema LCR front channel speakers provide improved dialogue intelligibility as well as imaging. A system of THX ULTRA certified components assures you of the ultimate home theatrical experience.



IMPORTANT SAFETY INSTRUCTIONS

When using your Cinema speakers, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- 1. Read and understand all instructions.
- 2. Retain the safety and operating instructions for future reference.
- 3. Follow all warnings and instructions in this manual and marked on the product.
- 4. Any service or repair required must be performed by qualified, factory authorized personnel.
- Do not use this product in a high humidity environment or near water, for example a wet basement, wet bar, or swimming pool.
- 6. Never touch the drivers or push objects of any kind into this product through the grilles.
- Always provide adequate ventilation for the Sonamp 2120.
 Allow a minimum of one inch above and three inches behind the amplifier. Do not block cooling vents on the amplifier case.
- The amplifier should be situated away from heat sources such as heat registers, radiators, stoves, or other appliances that produce heat.
- The amplifier should only be connected to a power supply of the type marked on the back panel. The power supply cord should be routed to avoid damage from contact with sharp objects or being stepped on.
- Unplug the amplifier during thunderstorms or when the system will be unused for extended periods.
- 11. Exercise care to avoid spilling liquids on or in the amplifier or speakers.
- 12. Do not place the amplifier on an unstable table, stand, or cart. Improper placement of the amplifier may cause it to fall on an adult or child, causing serious injury and damage to the amplifier.



INTRODUCTION

Congratulations on your choice of the Sonance Cinema systems let you hear movies the way the directors intended them to be heard on the big screen. Your system will allow you to enjoy vastly improved dialogue intelligibility, superior on-screen sound localization, enveloping surround sound and incredibly wide frequency response and dynamic range.

The décor friendly, sonically superior Sonance Cinema Systems meet the highest standard for accurate reproduction of cinema soundtracks and are compatible with all Dolby Digital sound tracks.

This state of the art sound system literally disappears in your room. Each speaker protrudes just threequarters of an inch from the wall ... even the subwoofers!

Cinema Two LCR (left, center, right) speakers are THX® ULTRA certified and employ no compromise audiophile grade crossovers, resulting in a virtually seamless transition between drivers for a smooth and accurate sound stage. Open, detailed, and transparent, with a natural tonal balance and precise stereo imaging, the main speaker arrays of the Cinema Two can fill a room with sound without the usual speaker box clutter.

The three-driver array (two midranges flanking the tweeter) achieves consistent fidelity with a narrow vertical dispersion pattern to minimize the influence of room acoustics. Cinema Two LCRs feature the exclusive Cinema Acoustic Alignment Device (CAAD), a tilting/rotating midrange/tweeter plate which allows the speakers to achieve maximum sonic performance in a variety of installations. An eight-inch woofer completes the speaker system.

Cinema Two LCR and SUR speakers fit in standard 2"x 4" frame walls. Cinema Two LCR speakers are also magnetically shielded to eliminate interference with TVs, clocks, or other electrical devices.

Cinema Two SUR speakers are THX® ULTRA certified and feature dual tweeter/midrange arrays and eight-inch woofers. These surrounds are configurable in either bipolar or dipolar mode to achieve the desired performance. Bipolar configuration is optimal for reproduction of the diffuse ambient content of soundtracks. The dipolar setting, in some instances, provides greater localization of sound effects. Changing configuration is easily achieved by simply changing one connector. Like the LCRs, the surrounds fit into standard 2"x 4" stud walls.

Cinema Two SUB subwoofers provide powerful bass to complete a truly visceral movie experience. These in-wall sub systems are capable of shaking the foundation of the most massive fortress of solitude, without being seen.

The Cinema Two SUB includes four ten-inch aluminum drivers and a Sonamp Cinema 2120 amplifier with a built-in crossover, phase adjustments. and mode switches. Integral to the Cinema Two System are the specially designed back boxes which assure outstanding performance.

The Cinema Two SUB System includes a dedicated a Sonamp Cinema 2120 specially designed to drive subwoofers. As a convenience, the Sonamp Cinema 2120 features an auto-on circuit which activates the amplifier when a signal is present and automatically shuts it down after 3 minutes of inactivity. You never have to turn it off!

CUSTOM INSTALLATION

Your Cinema speaker system will provide maximum performance and entertainment value when custom installed by skilled professionals with specialized tools and experience to design and install audio/video and related systems. These professionals can assist you in the selection of complementary components engineered to meet your needs and optimize performance while satisfying the physical and aesthetic demands of the space you have chosen for your home theater.

Custom installed systems can be configured to accommodate music reproduction throughout your home, security, telephone, and other home systems. Professional installers coordinate their efforts with architects, interior designers, and electricians to ensure that these systems blend into your home both functionally and aesthetically.

The increasingly sophisticated audio and video components now available demand expert system design and installation to deliver full value. More than ever, consumers rely on custom installers to help them explore the myriad of home entertainment options now available ... to explain the features and functions of each and assure compatibility of related components.

Custom installation caters to the homeowner who eschews the complexity and unsightliness of traditional audio and video systems, yet wants to enjoy music throughout the home. In the capable hands of a custom installer, special devices like those supplied by Sonance can make the most sophisticated audio/video systems easy to use and practically invisible.

The growing popularity of home theaters speaks to a change in the way you look at audio and video components. You probably see them as an integral part of an investment in your home and lifestyle. The professional installer can assure that this investment meets your expectations.

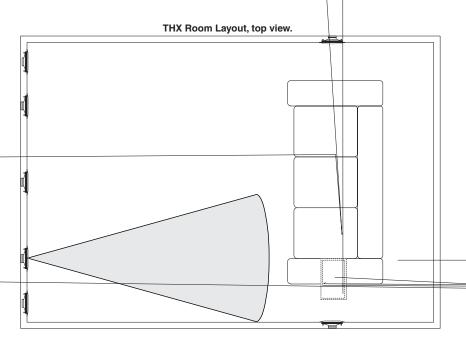
GETTING THE MOST FROM YOUR CINEMA SUBWOOFERS

When properly installed and operated with appropriate components, your Cinema speakers will provide you with many years of entertainment pleasure. To realize the full potential of your new speakers, please read all instructions before starting the installation process.

Pre-installation is critical to achieving the maximum performance of your Cinema system. Factors such as the location and height of seating and location of screen dictate the proper placement and direction of speakers. Correct placement of your Cinema One SUBs assures that you will enjoy the full bass extension and impact of which your Cinema system is capable.

The key factors in maximizing the performance of your subwoofers are their relationship to the LCR (left, center, right) speakers and proximity to room boundaries.

Although the Cinema Two SUBs reproduce nondirectional low frequencies, they should be installed in the same wall as the screen and LCR speakers in order to form a coherent, integrated sound stage. If this is not possible, they may be located in the side walls, as near as possible to the wall with the LCR speakers.



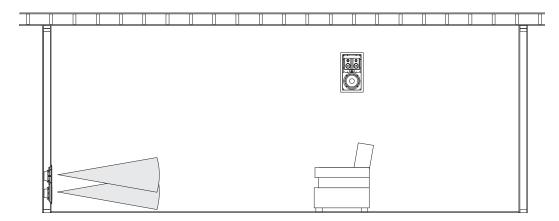


Locating your Cinema Two SUBs near a corner and close to the floor (Diagrams 1 and 2) provides the acoustic reinforcement necessary to maximize efficiency and bass extension. The precise location of your SUBs will be dictated by the space requirements of the included back boxes. Cinema Two SUBs must be installed with their back boxes, which are integral to the speaker system.

Note the speaker cable size recommendations in the installation instructions. To assure optimum performance of your subwoofers, avoid unnecessarily long cable runs.

The Cinema Two SUB System requires a nominal six inch depth (2" x 6") stud walls thus accommodating the massive magnet structures of their drivers. Due to the high-energy output of which they are capable, the Cinema Two SUBs must be installed with their 72" tall back boxes.

Diagram 2



INSTALLATION QUICK START

Read "Getting The Most From Your Cinema Speakers" and plan speaker locations.

If this is your first installation of a Sonance Cinema system, read all of the installation instructions before beginning.

The following gauge quality speaker wire is recommended for the Cinema Two SUBs

- 14 gauge for less than 30 feet
- 12 gauge for between 30 and 75 feet
- 10 gauge for greater than 75 feet

Verify adequate parts and tools for the installation:

PARTS LIST / TOOL LIST • CINEMA TWO SUB

	NEW CONSTRUCTION	RETROFIT
PARTS		
2 Cinema Two SUB speakers	•	•
2 Grilles	•	•
12 #8 x 3" mounting screws	•	•
2 Grille mounting rings	•	•
2 Back Boxes	•	•
8 Angle brackets	•	•
TOOLS		
Electric Drill (1/4" - 3/8" drive)	•	•
1" Flat Bit	•	•
3/8" Bit	•	•
Stiff Wire (coathanger, fishtape)		•
Torpedo Level	•	•
Wire Strippers	•	•
Keyhole or Drywall Saw		•
Gloves	•	•
Pencil	•	•

Installation with back box





When installing Sonance Cinema speakers, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

- 1. Read and understand all instructions.
- 2. Never drill or cut into wall cavities that already contain electrical wiring or plumbing.
- 3. Follow all warnings and instructions in this manual and marked on the product.
- 4. Do not install this product in a high humidity environment or near water, for example a wet basement, wet bar, or swimming pool.
- 5. Never touch the drivers or push objects of any kind into this product through the grilles.
- 6. Always exercise caution when working in unfinished spaces such as attics. Areas with exposed joists present a significant danger of injury from falls or stepping on nonstructural surfaces. Before working in areas with exposed joists, always create temporary walkways using plywood or dimensional lumber strong enough to support your weight.

CARE AND MAINTENANCE

- 1. Retain the safety and operating instructions for future reference.
- 2. Any service or repair required must be performed by qualified, factory authorized personnel.
- 3. Do not use liquid or aerosol cleaners on the speakers.
- 4. To clean your speakers, wipe the grilles with a soft cloth dampened with water. You may remove the grilles to wash and dry them. The baffle, drivers, and CAAD may be dusted by gentle use of "canned air" commonly used to clean cameras and computer equipment.
- 5. Do not use this product in a high humidity environment or near water, for example a wet basement, wet bar, or swimming pool.
- 6. Do not expose your Cinema speakers to direct sunlight or high heat. Extended periods of exposure may cause deterioration of adhesives and driver materials, compromising the useful life of the speakers.
- 7. Sine wave test tones can damage your Cinema speakers and should only be used at low volume levels for short periods.
- 8. Never touch the drivers or push objects of any kind into this product through the grilles.
- 9. Do not expose your Cinema speakers to construction dust, dirt, or airborne paint particles. If the area in which your speakers are installed is subject to potentially damaging airborne particles, you may remove the grilles, temporarily cover them with paper or plastic food wrap, then replace them over the speakers. Be sure to remove this protective cover after the dirty activity is complete and the room is thoroughly cleaned.



CINEMA TWO SUB, NEW CONSTRUCTION—BACK BOX INSTALLATION

Insert the Cinema Two SUB Back Box between studs, moving the studs if necessary to achieve proper fit. Attach the back box with the L brackets provided, or if back box is installed against the floor plate, use long 2-1/2" screws through the studs into the sides of the back box every 12". For optimum performance, mount back boxes as low and near to a corner as possible.

Drill a hole as small as possible in the rear or side panel of the back box and pass the speaker wire through it. For ease of speaker installation, leave two feet of extra wire beyond the actual speaker mounting location. Seal the hole with silicone caulking compound.

CINEMA TWO SUB, RETROFIT—BACK BOX INSTALLATION

Survey proposed sites and look for installation obstacles, e.g., plumbing, wiring and other fixtures. Access the attic or crawl space to check routing of air ducts and available mounting depth: Cinema Two SUBs require a wall cavity 5-3/4" deep and 84" tall.

At each selected site, use a stud locator to identify an open space between studs. Drill a small hole in the center of the chosen area and insert a bent coat hanger to confirm that the cavity is clear.

Use a stud finder to locate the studs that define the cavity. Using a drywall saw, make two horizontal cuts along the inside of the studs, creating an opening at least 84" high. The bottom cut should be 6" below the desired bottom of the back box (to accommodate L brackets). The upper cut should be 6" above the desired top of the back box. Next, make two vertical cuts along the inside edges of the studs, connecting the horizontal cuts. Remove the drywall and set aside.

Insert the Cinema Back Box and attach the top and bottom to the studs with the L brackets provided. Fill any gap between the back box and side studs with scrap wood or drywall to assure a snug fit. Drill a hole as small as possible in the back box and pass the speaker wire through it. Seal the hole with silicone caulking compound. Leave two feet of extra wire beyond the actual speaker mounting location for ease of speaker installation.

Use the wood plate protruding from back box as a template to cut drywall. Apply silicone caulking compound or construction adhesive to the back side of the removed drywall. Replace the drywall and attach it to the back box with 1" drywall screws every 3-4" around the perimeter of the box.

1



DETAILED BACK BOX INSTALLATION INSTRUCTIONS

The Cinema Two Back Box must be installed in a 2" x 6" stud bay that is at least 84" tall and 14-1/2" wide. Refer to pages 8 and 9 for optimal subwoofer placement. Run the speaker cable from your equipment to the back box location. Attach the four "L" brackets to the four corners on the short side of the cabinet. Install the back box as far forward (speaker cutout side) in the bay as possible to minimize contact with the rear side drywall. The four "L" brackets should then be attached to the studs or joists at the appropriate position. Drill a hole that is slightly larger than your speaker wire. Once your speaker wire is routed into the back box use silicone or construction adhesive to seal off the wire entry hole. This will make the box air tight.

If possible apply construction adhesive to the front of the box (not the coverplate) during drywall installation. This will bond the back box to the wall structure, and eliminate all possibility of unwanted resonances. The coverplate, included with the back box, is designed as a drywall cutout template for the speaker. It may be left attached to the back box until the speaker is ready to be installed.

SPEAKER INSTALLATION

Wire Connections – Strip 1/2" of insulation from each speaker wire. Attach the positive conductor to the red 5-way binding post and the negative wire to the black post. To connect, loosen the nut on the binding post until the hole in the post is visible. Insert the stripped end of the wire through the hole, then snug the nut. Do not over tighten.

Before installing the speaker remove the coverplate from the enclosure. Speaker Mounting –Screw each speaker assembly by inserting the ten long screws provided through the baffle into the back box.

GRILLE INSTALLATION

If 3/8" drywall is used, break off the 16 tabs on the back side of the grille ring. Attach the ring to the back box with the eight short screws provided. Carefully place grille into grille ring. The sides of the grille may be bent, if a tighter fit is required.

Diagram 3





CONNECTING THE CINEMA TWO SUB AMPLIFIER

The Cinema Two SUB System includes a Sonamp Cinema 2120 specially designed to drive subwoofers. Connect the subwoofer output interconnect to the left channel input jack on the rear of the Sonamp Cinema 2120. If the source preamplifier has no dedicated subwoofer output, use a pair of interconnect cables from the preamp out or tape out to the left and right input jacks of the Sonamp Cinema 2120.

If no line level output is available to drive the subwoofer, use a Sonance OP-3 to convert high level speaker output to the appropriate level for input to the Sonamp Cinema 2120. Connect subwoofer speaker wires to the right and left speaker terminals on the back of the amplifier.

NOTES: Polarity of speaker wires is critical. All positive leads (+) must be attached to red connectors throughout the system.

Since the Sonamp Cinema 2120 subwoofer amplifier sends a monaural signal to both speakers, either speaker (right or left) may be driven by either amplifier channel.

The Sonamp Cinema 2120 subwoofer amplifier is designed to drive one speaker per pair of binding posts. Connecting additional speakers in parallel may cause damage to the speakers and amplifier.

Do not tie amplifier output (+) terminals together and run a single 2 conductor to the two subwoofers. Each amplifier channel requires separate positive (+) and negative (-) conductors, 4 total for each amplifier and two subwoofer modules. (See diagram 6)

Plug the power cord into a grounded (three-hole) AC outlet of the voltage indicated on the amplifier. Do not use a switched outlet on another component. The Sonamp Cinema 2120 amplifier features auto-on circuitry. After 3 minutes of no input signal, the amplifier turns itself off. It automatically powers on with an input signal is detected.

Subwoofer Amplifier Settings

Non-THX Processors

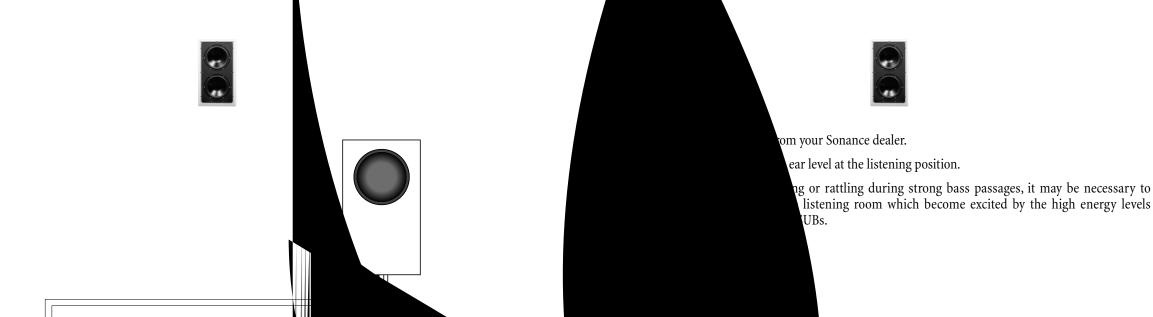
For non-THX Processors some experimentation will be necessary to achieve the best possible integration of the Cinema One SUBS with the other speakers in the system. Start with the following settings on the Sonamp Cinema 2120:

- FREQUENCY: fully clockwise, highest crossover frequency
- PHASE: down, 0, normal phase setting
- LEVEL: 12:00
- BYPASS: down, off

THX and 5.1 Processors

- FREQUENCY: no action
- PHASE: down, 0, normal phase setting
- LEVEL: no action
- BYPASS: up. on

1



BYPASS: THX controllers provide a special facility to calibrate subto Two SUB system with such a controller, follow the controller's instruction output. When used with THX components, the THX setting of the level of our Cinema Two SUBs. The NORM setting may be used different bass level for music listening.

PHASE: When used in conjunction with some components, the bas will be greater with the phase switch in the down (180) position. I content with the switch in each position to determine the correct some normal listening position, listen while a friend changes the phase setting is correct. Alternately, use an SPL (sound pressure level) produces greater output in the 75-125 Hz range. Inexpensive SI Shack stores.

LEVEL: After the correct phase has been determined, you may non-THX listening by measuring test tones starting above 1000 transition between the subwoofers and other drivers, it may be u compact disk and a SPL meter. Adjust the level control on the measure the same SPL. Some THX controllers include the TH controller manual. Most controllers produce a pink noise signal







CINEMA2.SUB

Design: In-Wall Infinite Baffle

Two 10" (254mm), Aluminum Cones and Rubber Surrounds **Driver Compliment:**

Frequency Response: 32Hz - 250Hz ±3dB

Impedance: 4 ohms nominal; 3 ohms minimum

Power Handling: 5 – 200 watts Sensitivity: 90dB 1W/1m

Grilles: Metal

Speaker Dimensions (WxHxD): 15" x 26-1/4" x 5-1/4" (381mm x 667mm x 133mm)

Fixed Depth Bracket Cutout: 10-3/16" x 18-15/16" (259mm x 481mm)



SONAMP CINEMA 2120

Power Output (RMS)

Both Channels Driven: 190 watts per channel @ 3 ohms

Dynamic Power

17

at Clipping: 140 watts per channel @ 2 ohms THD: 0.2%, 20Hz - 20kHz @ 3 ohms

Input Impedance: 47k ohms

Power Consumption: 750 watts (625VA) at full output

Dimensions (WxHxD): 16-3/4" x 5-3/8" x 12-5/8" (425mm x 137mm x 321mm)

19" x 5-1/4" x 12-1/2" (483mm x 133mm x 318mm)

Shipping Weight: (Rack-mount version)

25 lbs (1.33 cu. ft)



CINEMA2.SUB BACK BOX

In-Wall Back-Box Enclosure Design:

Wood Box: 3/4" MDF with Dacron® Dampening Material

3.0 Cubic Feet Volume:

Dimensions

(WxHxD): 14-1/2" x 72" x 5-1/2" (368mm x 1829mm x 140mm)



SERVICE

The Technical Assistance Department at Sonance is available to answer any questions concerning the operation and installation of your Cinema speakers. Please contact us between the hours of 9 AM and 5 PM Pacific Time, Monday through Friday, except holidays:

Telephone toll free, Continental USA: (800) 582-7777

Telephone outside Continental USA: (949) 492-7777

Sonance • Technical Assistance Department

Address inquiries to: 961 Calle Negocio San Clemente, CA 92673-6202

YOU MUST HAVE PRIOR AUTHORIZATION TO RETURN YOUR UNIT!

In the event that your unit should need service or repair, return the unit to your authorized Sonance dealer. Be prepared to state the model number, date of purchase and the dealer's name and address when you call.

The unit must be returned to Sonance in its original shipping carton and packing to make sure it arrives in good condition. If the original carton has been lost or damaged, a new one can be obtained from Sonance for a small fee.

When you ship your unit use United Parcel Service, Federal Express, etc. Never ship your unit via US Mail.

FREIGHT COLLECT SHIPMENTS WILL BE REFUSED!

WARRANTY COVERAGE (U.S. ONLY)

Sonance offers you a five (5) year limited warranty on your loudspeakers and a one (1) year limited warranty on your amplifier. You must observe the following conditions in order to receive this protection:

- 1. Retain your bill of sale or legible facsimile (photo copy). In the event that your unit should ever require service, the bill of sale shall act as your proof of ownership and give the effective date of your warranty.
- 2. Read your warranty thoroughly. Sonance offers you certain rights outlined in your warranty and requires specific conditions to be met to retain those rights. You may also have other rights which vary from state to state.



FIVE YEAR LIMITED WARRANTY(SPEAKER)

Sonance warrants to the original retail purchaser for the period of five (5) years, the unit to be free from defects in material and workmanship provided the unit is operated in accordance with the printed instructions included with the unit. Five (5) years begins on the date of purchase shown on the bill of sale (receipt). Your purchase must have been from an "Authorized Sonance Dealer." For this warranty to be effective, the bill of sale must also show from whom the unit was purchased and the purchase price. In the event proof of purchase cannot be established as stated in the previous sentence(s), warranty shall commence on the date the unit was shipped from the factory. This warranty shall apply exclusively to the original purchaser and shall not apply to purchasers who purchased units for industrial or commercial purposes.

During the warranty period, Sonance agrees to repair or, at its discretion, replace at no charge components that prove to be defective, provided the unit is returned in accordance with the shipping instructions detailed above. This warranty does not apply if the unit has been damaged by accident or misuse, or as a result of service or modification by unauthorized personnel.

This warranty is limited to Sonance product(s) registered herein and specifically excludes any damage to loudspeakers and other allied or associated equipment which may result for any reason from use with this product.

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose or otherwise. In no event shall Sonance be liable for incidental or consequential damages or have any liability with respect to defects other than as specifically set forth above.

ONE YEAR LIMITED WARRANTY(SONAMP CINEMA 2120)

Sonance warrants to the original retail purchaser for the period of one (1) year, the unit to be free from defects in material and workmanship provided the unit is operated in accordance with the printed instructions included with the unit. One (1) year begins on the date of purchase shown on the bill of sale (receipt). Your purchase must have been from an "Authorized Sonance Dealer."

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